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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/526,990

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Shridhar Mubaraq Mishra

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EXAMINER

RUTKOWSKI, JEFFREY M

ART UNIT

PAPER NUMBER

2416

MAIL DATE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/526,990	Applicant(s) MISHRA ET AL.	
	Examiner JEFFREY M. RUTKOWSKI	Art Unit 2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 April 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8-17 and 19-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8-17 and 19-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-7, 18 have been cancelled.

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. **Claims 8-17 and 19-27** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The use of "capable of", "configurable" and "switchable" renders the claims indefinite because it is not clear what is required and what is not required by the claims.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

5. **Claims 8-11, 16-17, 19 and 24-27** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tzeng et al. (US Pg Pub 2003/0212815), hereinafter referred to as Tzeng in view of Moran et al. (US Pg Pub 2002/0071398), hereinafter referred to as Moran and Ting et al. (US Pat 7,145,866), hereinafter referred to as Ting.

6. For **claims 8, 17, 24**, Tzeng teaches a switch that is expandable to any number of switch ports **[0021-0023, figure 3]**. The switch is made up of ingress/egress ports **107,108,109** and Media Access Control (MAC) interfaces **101,102,106** capable of receiving FE and GE packets. MAC interface **101** is able to auto-negotiate Ethernet/FE/GE speeds **[figure 1]**.

7. Tzeng discloses a single buffer that is configurable to send and receive GE and FE packets to and from the MAC interfaces. Tzeng does not disclose the use of transmit and receive modules. Moran teaches an architecture where a Media Access Controller (MAC) interacts with separate receive **30** and transmit **29** storage modules **[figure 2]**. It would have been obvious to a person of ordinary skill in the art at the time of the invention to use separate send and receive memory modules in Tzeng's invention to reduce the possibility of the undue delay, caused by long read/write cycles, by not having to search one large address pool to locate a packet or an open slot for a received packet.

8. Tzeng does not disclose an ingress/egress port that functions as a single GE port in one mode and functions as more than one FE ports in a second mode. Ting discloses a Network Interface **120** (ingress/egress port) that includes at least one NIC card **[figure 1 and col. 4 lines 5-7]**. Ting suggests the Network Interface **120** has the ability to be switched (switchable) because it can operate with either one NIC having eight FE device ports (second mode) or one NIC having a single GE device port (first mode) **[col. 4 lines 13-16]**. It would have been

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obvious to a person of ordinary skill in the art at the time of the invention to use Ting's Network Interface in Tzeng's invention to satisfy a design choice by selecting a NIC that is appropriate for a specific type and format of data transmitted over a network [**Ting, col. 1 lines 10-20**].

9. For **claim 9, 26 and 27**, Figure 1 of Tzeng shows an example where one MAC interface is configured to handle FE/GE and another MAC interface is only configured to handle FE packets.

10. For **claims 10 and 11**, Tzeng teaches a packet buffer **103** for storing packets as they are received [**figure 1**].

11. For **claims 16 and 19**, Tzeng's invention can support any number of MAC interfaces [**0023**].

12. For **claim 25**, Tzeng discloses the ingress/egress ports **107,108,109** and Media Access Control (MAC) interfaces **101,102,106** capable of receiving FE and GE packets. The MAC interfaces **101,106** auto-negotiate (control signal) interface speeds [**figure 1**].

13. **Claims 12 and 20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tzeng in view of Moran and Ting as applied to **claim 8** above, and further in view of Gentry, Jr. (US Pat 6,356,951), hereinafter referred to as Gentry.

14. For **claims 12 and 20**, the combination of Tzeng and Moran, discloses a receive module that stores packet data (wherein the receive module further includes a memory configured to store packet data).

15. The combination of Tzeng and Moran do not teach the use of a receiver that interfaces with a parser. Gentry teaches an input port processing module **104** interfaces with a header parser **106** [**figure 1A**]. The header parser **106** parses only the header (descriptor) portion of the

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packets [**col. 7 lines 50-55**] (a receiver interface configured to extract header data from the packet data and generate a descriptor therefrom, the descriptor associated with the packet data within the receive module). It would have been obvious to a person of ordinary skill in the art at the time of the invention to use a receiver interface in Tzeng's invention to identify related packets [**Gentry, col. 7 line 53**].

16. **Claims 13-15 and 21-23** are rejected under 35 U.S.C. 103(a) as being unpatentable over Tzeng in view of Moran, Ting and Gentry as applied to **claim 12 and 20** above, and further in view of Di Placido (US Pat 6,226,292).

17. For **claims 13, 15, 21, 23**, the combination of Tzeng, Moran and Gentry teach a receiver interface for fetching data the header parser **106** copies header information (descriptor) from input port processing module **104** into a header memory **302** [**Gentry, col. 17 lines 8-9 and figure 3**] (claim 13: wherein the receiver interface is further operable to fetch packet data from the set of buffers and store the packet data in the memory; claim 15: wherein the receiver interface is further operable to store the descriptor associated with the packet data in the memory).

18. Tzeng teaches the use of a buffer to receive information [**figure 2**]. The combination of Tzeng, Moran and Gentry do not disclose the use of more than one receive buffers (set of buffers). Di Placido teaches a switch arrangement that contains more than one set of receive buffers **20** [**figure 2**]. It would have been obvious to a person of ordinary skill in the art to use a set of buffers in Tzeng's invention to manage memory space by a particular buffer to a particular MAC interface [**Di Placido, col. 4 lines 62-65**].

19. For **claims 14 and 22**, Tzeng teaches the use of First-In-First-Out (FIFO) buffers to receive information [0029].

Response to Arguments

Applicant's arguments with respect to **claims 8-17 and 19-27** have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY M. RUTKOWSKI whose telephone number is (571)270-1215. The examiner can normally be reached on Monday - Friday 7:30-5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kwang Yao can be reached on (571) 272-3182. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jeffrey M Rutkowski/
Examiner, Art Unit 2416

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